

Work Order ID 155473

Tuesday, January 17, 2017 11:20:15 AM

155473

Page 1

Item ID: 647.1403

Revision ID:

Item Name: Upper Cutter Assembly, U-Channel

Start Date: 1/3/2017

Start Qty: 1.00

Required Date: 1/17/2017

Req'd Qty: 1.00

Reference:

Accept

N900040100

Setup

Start

NS1

Stop

NS2

Cust Item ID:

Customer:

Approvals:

Process Plan:

Date: JAN 17 2017

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
647.1400	C								
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									
120		0.00							
120									
Small Fab	Memo	0.07							
Small Fab	Assemble as per dwg and apply loctite 598 on all faying surfaces per note 2.								
	A/R RTV LOCTITE 598: <u>M135385</u>								
	exp. date: <u>04/18</u>								
130	QC5- Inspect part completeness to step on W/O	0.00							
130									
QC	Memo	0.00							
Quality Control									

DAS
38
9-88
FEB 23 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval 	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY			
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____			
Misidentified	☐	Past Due	☐				

Work Order ID 155473

Tuesday, January 17, 2017 11:20:15 AM

155473

Page 2

Item ID: 647.1403

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Upper Cutter Assembly, U-Channel

Start Date: 1/3/2017 Start Qty: 1.00

1

Cust Item ID:

Required Date: 1/17/2017 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

140

Identify as per dwg & Stock Location: ECk048 0.00***140***

Packaging

Memo

0.00

Packaging

***IDENTIFY AS PER APICAL MPP-120 BY STAMPING THE P# AND
REV***

FEB 23 2017

DAS
6
9-89

150

QC21- Final Inspection - Work Order Release

0.00

150

QC

Memo

0.02

Quality Control

DAS
21
9-89

FEB 24 2017

DAS
21
9-89

FEB 24 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : _____			

Picklist Print

Tuesday, January 17, 2017 11:20:15 AM

Page 1

Work Order ID: 155473

155473

Parent Item: 647.1403

647 1403

Parent Item Name: Upper Cutter Assembly, U-Channel

Start Date: 1/3/2017

Required Date: 1/17/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A NEW ISSUE JFS 13/07/03 VERIFY BY: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
NAS1149FN832P		Purchased	No			110	Each	1,533.000	6	6			

NAS1149FN832P

Washer

**

Location

Loc Qty

Loc Code

GA

576

M135058

232

M136182

344

ST263

957

M136182

957

MS27039-08-19

Purchased

No

110

Each

418.0000

3

3

MS27039-08-19

Screw

**

Location

Loc Qty

Loc Code

GA

161

m135948

161

ST277

257

m136199

15

m136301

42

m136537

200

DAS
6
9-89

FEB 15 2017

DAS
6
9-89

FEB 15 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coor. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
		OTHER : _____			

Picklist Print

Tuesday, January 17, 2017 11:20:15 AM

Page 2

Work Order ID: 155473

155473

Parent Item: 647.1403

647 1403

Parent Item Name: Upper Cutter Assembly, U-Channel

Start Date: 1/3/2017

Required Date: 1/17/2017

Start Qty: 1.00

Required Qty: 1.00

MS21042L08

Purchased

No

110

Each

821.0000

3

3

MS21042L 08

Nut

**

Location

Loc Qty

Loc Code

GA

509

m135274

18

m135978

491

ST303

312

m136301

192

m136537

120

136857

DAS
6
9-89

FEB 15 2017

647.1510

Manufactured

No

110

Each

4.0000

1

1

647 1510

Upper Deflector

**

Location

Loc Qty

Loc Code

CCK090

4

127780

4

646.9702

Manufactured

No

110

Each

11.0000

1

1

646 9702

Cutter Sub Assembly (U Channel)

**

Location

Loc Qty

Loc Code

cck012

11

124140

5

128802

6

DAS
6
9-89

FEB 15 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

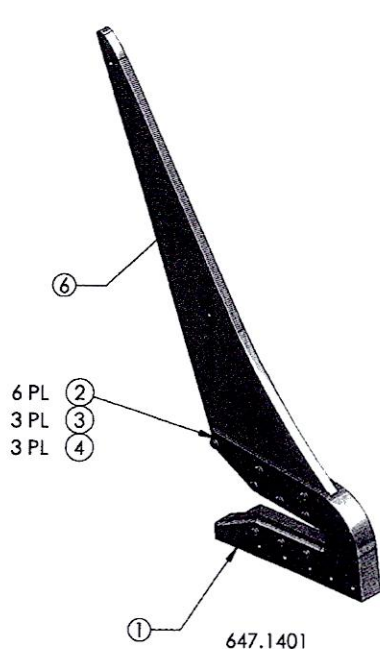
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____	
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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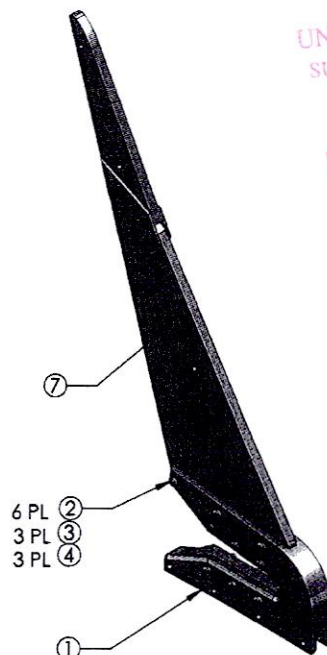
NOTES:

1. IDENTIFY IAW MPP-120
2. APPLY F/N 5 AS REQUIRED TO ALL FAYING SURFACES OF F/N 1, 6, & 7 UPON ASSEMBLY

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 155473 MLS
17-01-17



647.1401



647.1402

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	LAST PROTOTYPE REVISION: PR1		N/C
N/C	INITIAL RELEASE	06/15/09	P. BRAVO
A	INCORPORATED ECN'S 02962 & 03911	06/07/13	P. BRAVO
B	INCORPORATED ECN 05330	02/28/16	P. BRAVO
C	INCORPORATED ECN 05549	11/01/16	P. BRAVO

1	-	-	-	-	11	647.1514	UPPER DEFLECTOR		
-	1	-	-	-	10	647.1513	UPPER DEFLECTOR		
1	1	-	-	1	9	646.9703	CUTTER SUB ASSY		
-	-	1	-	-	8	646.9702	CUTTER SUB ASSY		
-	-	-	1	-	7	647.1501			
-	-	1	-	1	6	647.1510	UPPER DEFLECTOR		
A/R	A/R	A/R	A/R	A/R	5	601.2045	RTV, LOCTITE 598		
3	3	3	3	3	4	601.1541	LOCKNUT	MS21042L08	
3	3	3	3	3	3	601.2765	SCREW	MS27039-0819	
6	6	6	6	6	2	601.2764	WASHER	NAS1149FN832P	
-	-	-	1	-	1	646.9701	CUTTER SUB ASSY		
X						647.1405	CUTTER ASSY (UPPER)		
	X					647.1404	CUTTER ASSY (UPPER)		
		X				647.1403	CUTTER ASSY (UPPER)		
			X			647.1402	CUTTER ASSY (LOWER)		
				X		647.1401	CUTTER ASSY (UPPER)		
.1405	.1404	.1403	.1402	.1401	FIND #	PART #	DESCRIPTION	MAT'L	SPEC.

QTY		PARTS LIST	
NEXT ASSY (S)		ORIGINAL DATE	06-15-09
647.1300		DRAWN BY	J. GARDNER
		CHECKED	P. BRAVO
		DRAWING APPROVAL	P. BRAVO
		DATE	06-15-09
		CONTRACT NO.	
		UNLESS OTHERWISE SPECIFIED	
		DIMENSIONS ARE IN INCHES	
		TOLERANCES ARE:	
		3 PLACE DECIMALS ±.01	
		2 PLACE DECIMALS ±.005	
		ANGLES ±.5°	
		SIZE	8
		SCALE	NONE
		DWG. NO.	647.1400
		REV.	C
		SHEET	1 OF 2

DART 3030 ENTERPRISE CT.,
SUITE A
VISTA, CA, 92081
(760)-724-5300
APICAL INDUSTRIES, INC.
DBA DART AEROSPACE

CUTTER ASSY

1 2 3 4 5 6 7 8

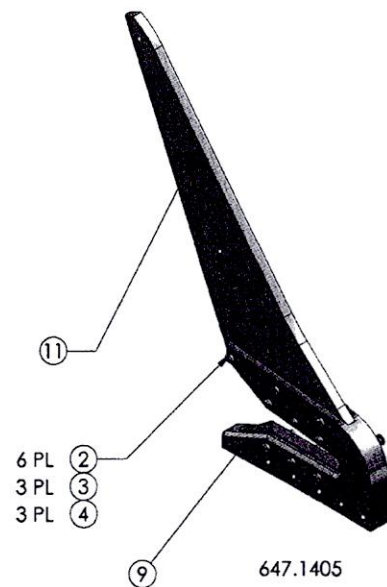
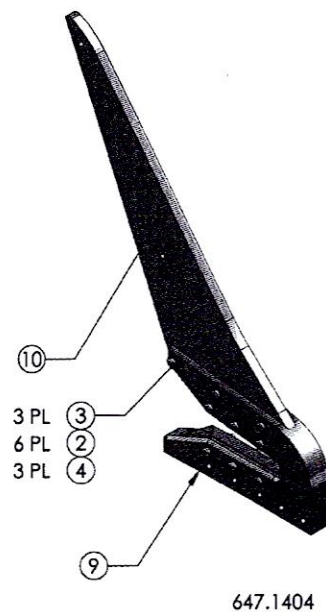
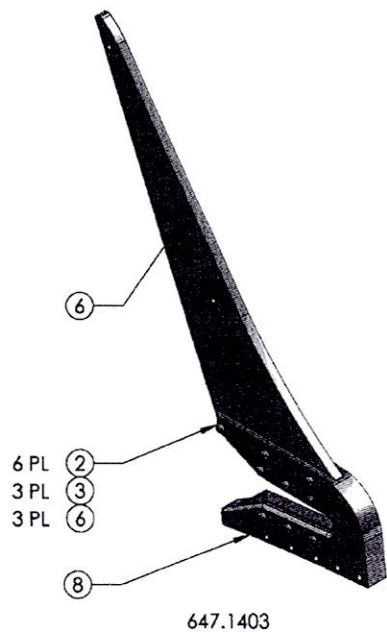
A

B

C

D

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ORIGINAL DATE 06-15-09		3030 ENTERPRISE CT., SUITE A, VISTA, CA. 92081 (760)-724-5300	
DRAWN BY J. GARDNER		P. BRAVO	
DRAWING APPROVAL P. BRAVO		APICAL INDUSTRIES, INC. DBA DART AEROSPACE	
CONTRACT NO.		CUTTER ASSY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SHEET B	REV. C
SCALE NONE		SHEET 2 OF 2	